

IN THE DRAWINGS

The Examiner has objected to the drawings on the grounds that "station 178," referred to in the specification, is not found in the drawings. Page 6 of the specification refers to a point on the Boeing 737 aircraft, in which "the station 178 bulkhead has two orienting rivet holes." This aircraft is given as an example of the process depicted in the drawings. Neither this aircraft nor its bulkhead at station 178 is present in the drawings. Therefore, no correction is needed. The Examiner is respectfully requested to withdraw the objection to the drawings.

In examining the drawings, it has become apparent that the drawings do not depict the laser-scanning device described in page 7 of the specification, lines 14-31, and claimed in claims 11 and 22. The drawings in a non-provisional application must show every feature of the invention specified in the claims. 37 C.F.R. 1.83 (a). Therefore, a correction to the drawings is required to show the claimed laser-scanning device. Subject to the approval of the Examiner, Applicants have prepared and sent a letter to the official draftsman to add new Fig. 12, which is very similar to Fig. 4, but depicts a laser-scanning device in place of a probe. Support for the new drawing is found in Fig. 4, in Claims 11 and 22 as originally filed, and in the specification, p. 7, lines 14-31, which includes a complete description of the use of a laser scanner. Thus, no new matter has been added by this depiction.

REMARKS

1. Claims 1-22 are pending in the Application, and Claims 11 and 22 have been amended. Because of the change to the drawings, changes are necessary to the specification, to add the new drawing to the "Brief Description of Several Views of the Drawings," on p. 4, and a brief paragraph at the bottom of p. 7 to describe new Fig. 12. Support for the changes are found in Fig. 4, in Claims 11 and 22 as originally filed, and in the specification, p. 7, lines 14-31. No new matter has been added in making these changes.

2. The Examiner has rejected Claims 1-5, 7, 9, 10, 12-16, 18, 20 and 21 under 35 U.S.C. § 102(b) as anticipated by U.S. Pat. No. 5,913,555 to Karl-Hermann Richter et al. ("Richter"). As to Claims 1 and 12, the Examiner states that Richter discloses a method for repairing a structure wherein a multi-axis digital measuring device is oriented and then used to capture an

image, measure at least a portion of the structure, and then save and use data to manufacture a sheet metal repair part. Applicants traverse the rejection. Richter discloses only a camera (10) and an image-processing computer (11). Richter further states that the camera is used only at a standardized "height h and provides data thereto to an image processing computer 11." Richter, col. 4, lines 46-48.

✓ A camera is not a multi-axis digital measuring device, as claimed in Claims 1 and 12. Richter discloses no multi-axis camera, and the only camera shown in the drawings, designated by numeral 10 in Fig. 5 of Richter, appears to be an ordinary camera for acquiring and processing an optical image. Col. 4, lines 45-49. Without an express intent to impart a novel meaning to claim terms, an inventor's claim terms take on their ordinary meaning. York Products, Inc v. Central Tractor, 99 F.3d 1568, 1572 (Fed. Cir. 1996). Richter does not anticipate the claimed invention, which expressly includes a multi-axis digital measuring device.

A multi-axis measuring device is described on p. 5 of the application, lines 10-12, as a device which has at least one linear axis, preferably at least one rotary axis, and a probe. While a camera may be considered to be a probe, a camera does not have a linear axis and a rotary axis. An invention is not anticipated when the same device or method, including all the limitations contained in the claims, is not described in a single prior art reference. Ex Parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. Appl. & Int. 1990).

The remaining rejections under 35 U.S.C. § 102(b) for Claims 2-5, 7, 9, 13-16, 18, 20 and 21 are moot in light of Richter's failure to disclose a multi-axis digital measuring device. Applicants submit that the rejection under 35 U.S.C. § 102(b) is overcome and respectfully request the Examiner to withdraw the rejection under 35 U.S.C. §102.

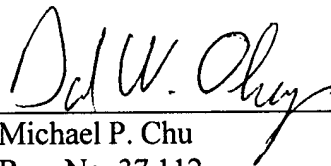
3. The Examiner has rejected Claims 8, 11, 19 and 22 under 35 U.S.C. § 103 (a) as being unpatentable over U.S. Pat. No. 5,913,555 to Karl-Hermann Richter et al. ("Richter") in view of U.S. Pat. No. 5,736,201 to Mary Linda Flint ("Flint"). The Examiner states that Richter discloses all the claimed subject matter except for transferring the repair part from a first workstation to a second workstation, or mounting a laser-scanning device. The Examiner states that Flint discloses transferring an unfinished part from a first workstation to a second workstation in order to build a duplicate part, and that it would have been obvious to transfer an

unfinished repair part from Richter to a second workstation according to Flint. Applicant traverses the rejection, on the grounds that there is no suggestion to combine the references.

In addition, neither Richter nor Flint discloses a multi-axis digital measuring device. As discussed above, Richter does not disclose a measuring device, and according to the Examiner, does not disclose transferring a repair part from a first workstation to a second workstation. Flint similarly does not disclose a multi-axis digital measuring device. Therefore, the combination of Richter and Flint neither reveals nor suggests Applicants' method for repairing a structure. Accordingly, the Examiner is respectfully requested to withdraw his rejections of Claims 8, 11, 19 and 22.

4. Applicants have amended claims to better describe the invention, and have added Fig. 12 and supporting sections in the specification. Support for new Fig. 12 and the supporting changes in the specification has been identified in the application as filed. No new matter has been added in making the changes. Applicants believe that the Claims are in form for allowance, and respectfully request the Examiner to allow them. The Examiner is respectfully requested to call the undersigned if such will help expedite the allowance of the claims.

Respectfully submitted,



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APPENDIX A

These are marked-up versions of the amended claims:

11. The method of Claim 1, further comprising mounting a laser-scanning device on the multiaxis digital measuring device, wherein the laser-scanning device is used to measure at least a portion of the structure with the multi-axis digital measuring device.

22. The method of Claim 22, further comprising mounting a laser-scanning device on the multiaxis digital measuring device, wherein the laser-scanning device is used to measure at least a portion of the structure with the multi-axis digital measuring device.

APPENDIX B

This is a marked-up version of the amended first full paragraph on p. 4:

BRIEF DESCRIPTION OF SEVERAL VIEWS OF THE DRAWINGS

Fig. 1 depicts an exemplary aircraft structure in need of repair.

Fig. 2 is a magnified view of an area where a bulkhead has been removed and must be replaced.

Fig. 3 is a mount suitable for use in measuring a structure.

Fig. 4 depicts a measuring machine suitable for measuring a structure.

Fig. 5 describes a process for repairing a structure

Fig. 6 depicts an operator using a measuring machine to orient the measuring machine with the area in need of repair.

Fig. 7 depicts an operator using a measuring machine to orient the measuring machine with the structure.

Fig. 8 depicts an operator using a measuring machine to measure the periphery of a portion in need of repair.

Fig. 9 depicts a nesting sequence of parts required for the repair.

Fig. 10 depicts a replacement part being machined in an operation on a CNC router.

Fig. 11 depicts a replacement part being formed in another operation.

Fig. 12 depicts a measuring machine with a laser-scanning device for measuring a structure.

APPENDIX B

This is a marked-up version for the amended paragraph on p. 7 that begins on line 28:

In using such a laser-scanning device, a process for repairing a structure includes mounting the device, preferably on a multi-axis coordinate measuring machine. The device is then oriented, and the part to be repaired is measured. The data is then saved and used to manufacture a repair part. A multi-axis machine with a laser-scanning device is depicted in Fig. 12. The measuring device may be a multi-axis coordinate measuring machine 120, having a base 122 and at least one linear axis 124, and preferably having at least one rotary axis 126, and a laser-scanning device 128. The laser-scanning device is mounted in place of the usual probe.